

IMAGE IN  
CARDIOLOGY

# Entire coronary origin from the right sinus of Valsalva as a common trunk in an ex-competitive athlete

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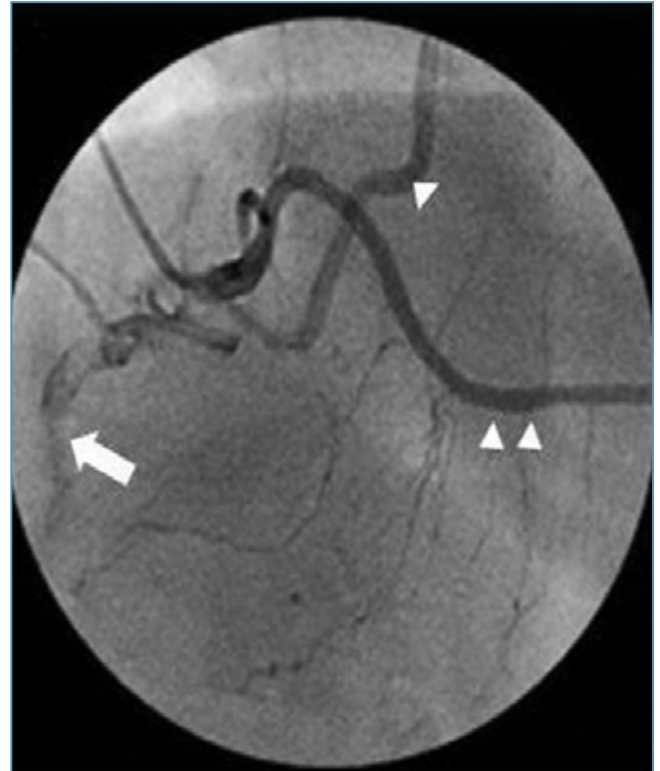
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We report a 54-year-old male patient presenting with typical ischaemic chest pain. He is an ex-competitive rowing athlete, with a smoking habit as risk factor. His symptoms had begun 2 months before admission, when he suffered a severe typical chest pain at rest. His vital observations were within normal limits and physical examination was non-contributory. The electrocardiogram showed Q-waves in the inferior leads.

The transthoracic echocardiogram revealed a single coronary artery emerging from the right sinus of Valsalva (RSV). The patient was subsequently referred for invasive coronary angiography, which showed a common trunk emerging from the RSV (Figure 1). A 64-multislice computed tomography confirmed these findings (Figure 2A) and added information regarding the benign pre-pulmonic course of the common trunk, which continues like a large anomalous vessel after the emergency of the RCA and LAD, with further origin of the left circumflex (Cx) artery (Figure 2 A and B).

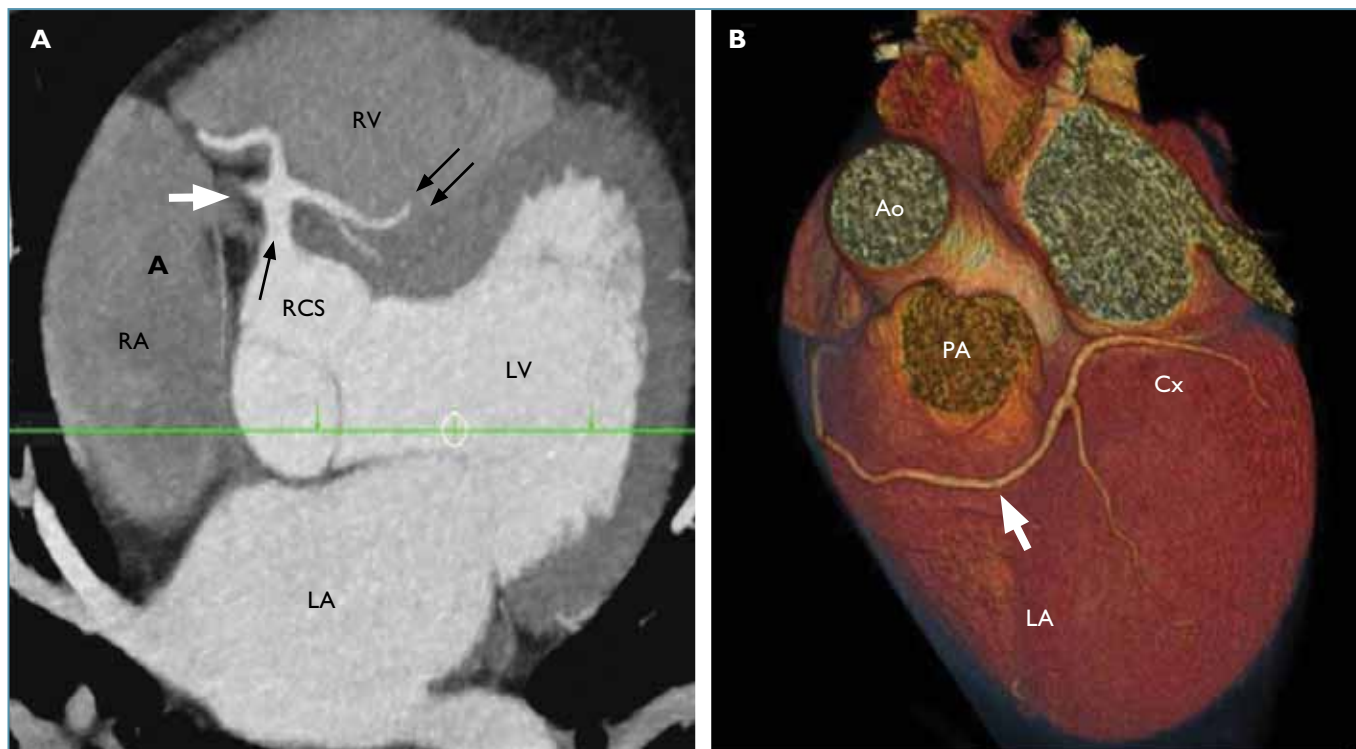
Due to the total occlusion of the RCA and the benign course of the coronary artery anomaly, we decided to manage him with



**FIGURE 1:** Right anterior oblique projection. Anomalous origin of all three coronary arteries from a common trunk. Observe the thrombosis in the RCA, which is filled from the LAD (arrow). Anomalous course of the Cx (single arrow head). Septal branches emerging from the LAD (double arrow head).

optimal medical treatment. Until the present the patient remains asymptomatic.

The occurrence of a single coronary artery from the right sinus of Valsalva is an extremely rare congenital anomaly that is seen in only 0.0024% to 0.044% of the population.<sup>(1)</sup> Anomalous coronary arteries are involved in 12% of sports-related sudden cardiac deaths versus 1.2% non-sports related deaths.<sup>(2)</sup> However, the asymptomatic condition of our patient during his youth probably responds to the pre-pulmonary course of the anomalous vessel, which is considered to be benign.<sup>(3)</sup> Although invasive coronary angiography is still the gold standard, multi-slice computed tomography added valuable information in our case regarding the benign course of the anomalous vessel.



**FIGURE 2: Multislice computed tomography.**

A: Common trunk (arrow) emerging from the right coronary sinus and continuing as a large anomalous vessel. Total occlusion of the proximal RCA (white arrow). Observe the LAD submerged in the myocardial tissue (double arrow) after the origin of the first septal branch. RA: right atrium; RV: right ventricle; LA: left atrium; LV: left ventricle; RCS: right coronary sinus.

B: Volume-rendered reconstruction. Anomalous vessel (arrow) courses in the anterior aspect of the pulmonary artery, with further origin of the Cx. Ao: Aorta; PA: pulmonary artery; Cx: left circumflex artery.

## REFERENCES

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